Exploring Learning Challenges Faced by Learners with Autism in Special Schools in Laikipia County, Kenya

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ABSTRACT

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by challenges in social interaction, communication, and repetitive behaviors. In Kenya, autism has emerged as a growing concern among school-aged children, particularly in special education contexts. This study explored the learning challenges experienced by learners with autism in special schools across Laikipia County. An exploratory research design was adopted to allow in-depth investigation of contextual and systemic issues affecting these learners. A stratified simple random sampling technique was used to select 291 participants from a target population of 1,205. Both qualitative and quantitative data were collected through structured questionnaires, interview schedules, and document analysis. Data were analyzed using SPSS Version 20 for quantitative aspects and thematic analysis for qualitative data. Findings revealed that educational facilities in special schools were largely inadequate and not fully suited to the unique needs of learners with autism. Furthermore, many teachers lacked sufficient training and experience in handling autistic learners, leading to compromised instructional quality. The study recommended that the government and stakeholders prioritize the development of specialized infrastructure, provision of appropriate learning materials, and comprehensive training for educators. Additionally, increased community awareness and parental support were identified as critical to improving outcomes for children with autism. The findings of this study have implications for educational planning and policy, offering valuable insights for addressing existing gaps in the management and support of autistic learners within Kenya's special education system.

Keywords: Autism Spectrum Disorder, learning challenges, special education, Laikipia County, inclusive education, Kenya

STATEMENT OF THE PROBLEM

Despite Kenya's commitment to inclusive education and the constitutional right to education for all children, learners with autism in special schools continue to face significant challenges that impede their educational progress. The inadequate understanding of autism, limited specialized resources, insufficient teacher training, and societal stigma collectively create barriers to effective education for these learners. This study aimed to investigate these challenges specifically in Laikipia County, where systematic research on autism education has been notably scarce. By identifying the specific learning challenges faced by autistic learners in this region, the study sought to inform evidence-based interventions that may enhance educational outcomes for this vulnerable population.

BACKGROUND INFORMATION

Autism Spectrum Disorder (ASD) refers to a range of neurodevelopmental conditions characterized by challenges with social communication, restricted interests, and repetitive behaviors (American Psychiatric Association [APA], 2013). While the severity of these characteristics varies, individuals with ASD often display differences in processing sensory input and may struggle with flexibility in thought and behavior (Lord et al., 2020). Some individuals are high functioning with intact speech and cognitive abilities, whereas others may have

significant intellectual and communication challenges (Eikeseth, 2009). Though the exact causes remain uncertain, research points to atypical brain development and genetic factors as primary contributors (Lai et al., 2014).

Children with ASD are considered to have Special Educational Needs (SEN) due to their heightened challenges in areas such as language acquisition, academic performance, social interaction, and physical coordination (Ministry of Education [MoE] Singapore, 2012). SEN designates children who require more intensive support than typically developing peers to access equitable educational opportunities. Consequently, inclusive and adaptive educational practices become essential to address the diverse learning profiles of autistic children.

Globally, ASD transcends racial, ethnic, and socio-economic boundaries. Prevalence estimates vary across regions, with the World Health Organization (2022) reporting that 1 in 100 children globally is diagnosed with ASD. In the United States, the Centers for Disease Control and Prevention (2020) estimated a prevalence of 1 in 44 children. However, data from low- and middle-income countries (LMICs), including Kenya, remain limited due to inadequate diagnostic infrastructure and low awareness. Although official statistics in Kenya are scarce, anecdotal evidence and non-governmental organizations estimate that up to 4% of the population may exhibit characteristics consistent with ASD (Wanjohi, 2012). It is also important to note that misdiagnosis remains a common issue, with children sometimes being labeled as having general neurological disorders or mental illnesses instead of autism (Myers, 2007).

In Kenya, efforts to address autism have grown incrementally. The Autism Society of Kenya (ASK) was founded in 2003 by a group of parents seeking to support and advocate for children on the spectrum. Despite these efforts, most educational settings continue to group children with varied disabilities together, failing to recognize the unique needs of autistic learners (Wanjohi, 2012).
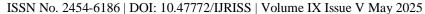
Research Questions

This study was guided by the following research questions:

1. What challenges do teachers face in designing and implementing teaching programs that meet curriculum requirements for learners with autism in special schools in Laikipia County?

2. To what extent do teachers utilize various teaching methods to address the diverse needs of autistic learners?

3. What are the perceptions of educators regarding the practicality and implementation of Individualized Education Programs (IEPs) for autistic learners?

4. How do autistic learners respond to classroom instructions and commands in special schools in Laikipia County?

Theoretical Framework

This study was anchored in behaviorism theory, a foundational perspective in psychology that emphasizes the role of learning through observable behaviors and external stimuli. Rooted in the works of B.F. Skinner, behaviorism underscores the significance of reinforcement and punishment in shaping behavior through operant conditioning (Skinner, 1953). The theory posits that human behavior can be understood and modified by manipulating environmental stimuli and reinforcements, thereby making learning outcomes measurable and observable.

Behaviorism is particularly relevant to understanding learning processes among children with autism for several reasons. First, it provides a framework for examining how environmental factors in educational settings influence the learning responses of autistic children. Second, it offers a structured approach for designing interventions that can systematically address behavioral challenges common in autism. Third, the theory's emphasis on measurable outcomes aligns with the need for evidence-based practices in special education.

Applied behavior analysis (ABA), which is grounded in behaviorist principles, has been widely used to support learners with autism through positive reinforcement strategies that encourage desirable learning behaviors while minimizing maladaptive ones (Cooper, Heron, & Heward, 2020). The application of behaviorist principles in autism education can be conceptualized through three key dimensions:

1. Stimulus Control: How environmental cues trigger specific behavioral responses in autistic learners, providing insights into the development of structured learning environments that minimize distractions and enhance focus.

2. Reinforcement Systems: The systematic use of rewards and positive feedback to strengthen desired behaviors, particularly important for autistic learners who may not respond to conventional social reinforcers.

3. Behavior Modification: The strategic implementation of interventions to reduce challenging behaviors while increasing adaptive ones, supporting the development of functional skills and social competencies.

This theoretical framework guided the study's methodology, particularly in structuring observations of classroom interactions and analyzing how instructional approaches influence learning behaviors among autistic students. It also informed the development of recommendations for evidence-based interventions that align with behaviorist principles of learning.

Autism Education in Global Context

Research on autism education globally reveals varied approaches and outcomes. Parsons et al. (2013) conducted a systematic review of educational provision for children with ASD and found that while specialized interventions show promise, there remains a significant gap between research and practice in many educational settings. Similarly, Lindsay et al. (2014) examined the challenges faced by teachers in implementing inclusive education for autistic students, highlighting that professional development and administrative support are critical factors in successful implementation.

Roberts and Simpson (2016) analyzed teacher attitudes toward inclusion of students with autism, finding that positive attitudes were associated with higher levels of training and experience in working with autistic learners. However, many teachers reported feeling underprepared for managing the complex needs of these students, particularly in mainstream educational environments.

Autism Education in Africa

Literature on autism education in Africa remains limited, but emerging research indicates significant challenges. Tekola et al. (2016) investigated autism awareness and attitudes in Ethiopia, revealing that misconceptions and stigma significantly impact educational opportunities for autistic children. In South Africa, de Vries (2016) documented the scarcity of specialized services and trained professionals, particularly in rural areas, which parallels the situation in many other African countries, including Kenya.

Franz et al. (2017) conducted a systematic review of autism research in sub-Saharan Africa and found that most studies focused on clinical aspects rather than educational interventions, indicating a critical research gap in understanding effective teaching practices for autistic learners in African contexts. Ruparelia et al. (2016) noted that cultural beliefs about disability often influence educational approaches, with some communities attributing autism to supernatural causes, which can lead to inappropriate interventions and educational exclusion.

Individualized Education Programs

Individualized Education Programs (IEPs) have been established as best practice for supporting learners with special needs, including those with autism. Ruble et al. (2010) evaluated the quality of IEPs for students with autism and found significant variability, with many lacking specificity and alignment with evidence-based

practices. In the Kenyan context, Mutua (2001) noted that while policy frameworks support individualized approaches, implementation is hindered by limited resources and training.

Kurth and Mastergeorge (2010) examined the content and quality of IEPs for students with ASD and found that many failed to address the unique social and communication needs of these learners. They emphasized that effective IEPs require comprehensive assessment, specific goal-setting, and regular progress monitoring, elements that are often missing in resource-constrained educational settings.

Teacher Preparation and Autism

Teacher preparation significantly influences educational outcomes for autistic learners. Syriopoulou-Delli et al. (2012) found that teachers' knowledge about autism correlates with their attitudes and teaching strategies. In Kenya, Gona et al. (2015) documented that many educators lack specific training in autism, which impacts their confidence and effectiveness in teaching autistic students.

Alexander, Ayres, and Smith (2015) analyzed teacher training programs for autism education and found that those incorporating hands-on experience, mentorship, and evidence-based instructional methods were most effective in preparing educators to meet the diverse needs of autistic learners. However, such comprehensive training programs remain scarce in many regions, including sub-Saharan Africa.

This literature review identifies significant gaps in understanding the specific challenges faced by learners with autism in Kenyan special schools, particularly in regions such as Laikipia County. The current study addresses these gaps by providing context-specific insights into the educational experiences of autistic learners in this setting.

METHODS

Research Design

This study employed an exploratory research approach using a survey design. The exploratory nature was appropriate given the aim to investigate the "how," "why," and "what" surrounding the learning experiences of students with autism, particularly in relation to behavioral patterns and instructional responses. A survey design is well-suited for capturing perceptions and experiences in their natural context, without manipulation by the researcher, and it supported the study's broad objectives to describe and analyze learning challenges in an authentic educational environment.
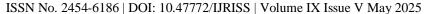
Sampling Procedure

Stratified random sampling was employed to ensure representativeness across the heterogeneous study population. This sampling method was chosen to ensure that key subgroups, such as gender, age, and school type, were adequately represented, and to prevent the dominance of any single group in the sample. For instance, it prevented a scenario where all selected participants were male in a mixed-gender population. This approach also allowed for subgroup analysis, which is critical when studying populations with diverse needs such as learners with autism.

From a target population of 1,205 individuals (including teachers, administrators, and support staff) across special schools in Laikipia County, a sample size of 291 participants was selected using Krejcie and Morgan's (1970) formula for determining sample size for research activities.

Data Collection Instruments

The instruments used for data collection included;

1. Questionnaire: Designed to gather quantifiable data on educators' experiences, perceptions, and practices related to teaching autistic learners. The questionnaire included both closed and open-ended questions to capture comprehensive information.

2. Interview Schedule: Semi-structured interviews were conducted with selected educators to gain deeper insights into their experiences, challenges, and strategies in teaching autistic learners.

3. Observation Schedule: Classroom observations were systematically conducted to document teacher-learner interactions, instructional methods, and learner responses in real-time settings.

The triangulation of these tools ensured the collection of rich, multi-dimensional data, thereby enhancing the validity of the findings (Creswell & Creswell, 2018).

Data Analysis

Data were analyzed using both qualitative and quantitative techniques. Quantitative data from the questionnaires were analyzed using descriptive statistics, specifically frequencies and percentages, to identify trends and patterns. Qualitative data from interviews and observations were thematically analyzed to derive insights into behaviors, instructional strategies, and learning environments. The findings were presented in descriptive tables and narrative summaries to facilitate interpretation and discussion.

RESULTS AND DISCUSSION

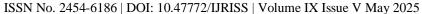### Design and Implementation of Teaching Programs

The study sought to examine whether teachers were effectively designing and implementing teaching programs that aligned with curriculum requirements for learners with autism. The findings are presented in Table 1.

Table 1: Implementation of Curriculum Requirements

Responses	Frequency	Percent
Strongly Agree	33	11.8%
Agree	46	16.4%
Not Sure	30	10.7%
Disagree	123	43.9%
Strongly Disagree	48	17.1%
Total	280	100%

The results indicate that a majority of respondents (43.9%) disagreed and 17.1% strongly disagreed that teachers were adequately designing and implementing teaching programs that meet curriculum requirements, totaling 61% negative responses. This finding aligns with research by Mutua and Dimitrov (2001), who noted that curriculum adaptation for special needs learners in Kenya often faces significant implementation challenges.Qualitative data from interviews revealed several factors contributing to this issue:

1. Curriculum Rigidity: Teachers reported that the standard curriculum lacks flexibility to accommodate the unique learning patterns of autistic learners. As one teacher from School A noted: *"The curriculum is not flexible enough to accommodate the unique learning patterns of autistic children. We need more specialized guidelines."*

2. Training Gaps: Many educators highlighted insufficient preparation in curriculum modification. A teacher from School B explained: *"We lack adequate training on how to modify the standard curriculum for autistic learners. Most of us rely on trial and error."*

3. Resource Constraints: Interview participants consistently mentioned inadequate teaching materials and physical facilities as barriers to effective curriculum implementation. A school administrator stated: *"We simply don't have the specialized materials needed to implement the curriculum properly for autistic learners."*

These findings suggest that the development and execution of appropriate teaching programs remains a significant challenge for educators of learners with autism, warranting targeted support and professional development.

Use of a Variety of Teaching Methods to Address Autistic Learners' Needs

The study also investigated whether teachers employed a range of teaching methods tailored to meet the diverse needs of autistic learners, with a focus on promoting desirable learning behavior. The results are summarized in Table 2.

Table 2: Use of a variety of teaching methods on autistic Children

Responses	Frequency	Percent
Strongly Agree	19	6.8%
Agree	57	20.4%
Not Sure	161	57.5%
Disagree	35	15.5%
Strongly Disagree	8	2.9%
Total	280	100%

A significant proportion of respondents (57.5%) were unsure whether teachers utilized varied teaching methods to support autistic learners. This uncertainty points to a potential gap in training or awareness among educators, necessitating further inquiry into the pedagogical approaches currently in use (Simpson, de Boer-Ott, & Smith-Myles, 2003).Thematic analysis of interview data revealed:

1. Methodological Monotony: Several participants noted a lack of diversity in teaching approaches. A school administrator observed: *"Most teachers use one approach for all children regardless of their specific needs. Visual aids and structured teaching are rarely implemented despite their proven effectiveness for autistic learners."*

2. Limited Professional Development: Teachers reported minimal exposure to specialized teaching methods for autism. One special education coordinator explained: *"Most of our teachers have received generic training in special education, but not specific methods for teaching children with autism."*

3. Resource-Related Constraints: Educators highlighted that limited access to teaching aids and technology restricts their ability to implement diverse methods. A teacher mentioned: *"We know about visual schedules and sensory tools, but we simply don't have them available in our classrooms."*

This finding echoes Simpson, de Boer-Ott, and Smith-Myles (2003), who emphasized that diverse teaching strategies are essential for addressing the heterogeneous needs of autistic learners.

Application of Individualized Education Programs (IEPs)

The study assessed the ease with which teachers implemented Individualized Education Programs (IEPs) in their classrooms. Table 3 presents these findings.
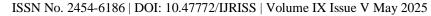
Table 3: Teachers find it easy to applythe Individualized Learning Program (IEP)

Responses	Frequency	Percent
Strongly Agree	8	2.9%
Agree	48	17.1%
Not Sure	155	55.4%
Disagree	45	16.1%
Strongly Disagree	24	8.6%
Total	280	100%

Over half of the participants (55.4%) were uncertain about the ease of implementing IEPs, suggesting potential challenges in their application. Qualitative data revealed several barriers to effective IEP implementation:

1. Resource and Time Constraints: Teachers reported limitations in time, expertise, and support systems. As expressed by a teacher from School C: *"Creating individualized plans requires time and expertise that many of us don't have. We have large classes with diverse needs and limited resources."*

2. Follow-up Support: Educators noted inadequate guidance after initial IEP development. A Special Education Coordinator stated: *"There's limited follow-up support to ensure IEPs are implemented correctly. Once they're developed, teachers are often left on their own to figure out implementation."*

3. Assessment Challenges: Interview participants highlighted difficulties in conducting comprehensive assessments needed for effective IEPs. One teacher explained: *"We lack proper assessment tools to identify specific learning needs of autistic children, which makes it hard to develop tailored educational plans."*

These findings align with Heward (2013), who noted that effective IEP implementation requires ongoing support and resources, which are often limited in resource-constrained settings.
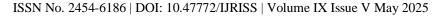
Classroom Interaction and Response

Classroom observations were conducted to assess the practical learning experiences of autistic learners. The results are displayed in Table 4.

Table 4: Class Interaction and Response

Response	Frequency	Percent
Withdrawn	99	35.4%
Hyperactive	181	64.6%
Total	280	100.0%

The observations showed that 64.6% of the learners were hyperactive, while 35.4% appeared withdrawn. This behavioral pattern aligns with the characteristics of autism spectrum disorder, where individuals may exhibit either hyper-responsiveness or hypo-responsiveness to environmental stimuli (Odom et al., 2003).

Qualitative observations revealed:

1. Environmental Factors: Classroom environments often lacked appropriate sensory adaptations, exacerbating behavioral challenges. Observers noted that fluorescent lighting, echoing classrooms, and visual clutter appeared to increase hyperactivity in some learners.

2. Instructional Impact: The teaching approach significantly influenced learner engagement. In classrooms where visual supports and structured routines were employed, autistic learners showed greater attention and participation.

3. Peer Interactions: Limited structured opportunities for peer interaction were observed, contributing to social isolation of autistic learners, particularly those exhibiting withdrawn behaviors.

Teachers reported challenges in addressing these diverse behavioral patterns:

"The hyperactive learners often disrupt the class, making it difficult to engage the withdrawn ones who need encouragement to participate." (Teacher, School D)

This suggests a need for differentiated classroom management strategies and environmental modifications to support varied behavioral tendencies among autistic learners.

Perceptions of the Practicality of IEPs

Participants were asked whether they believed IEPs were practical in the school setting. The findings are in Table 5.
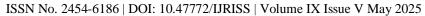
Table 1: Practicality of Individualized Learning Program (IEP) for Autistic Learners

Response	Frequency	Percent
Yes	99	37.1%
No	181	62.9%
Total	280	100%

A majority (62.9%) of the respondents did not find IEPs to be practical. Thematic analysis of interview data revealed three main concerns:

1. Implementation Feasibility: Educators questioned the practicality of IEPs given existing constraints. As one teacher from School E explained: *"The concept of IEPs is good, but the reality is that we lack the resources, time, and training to implement them effectively. Our class sizes are too large to provide truly individualized attention."*

2. Contextual Relevance: Some participants felt that the IEP model as currently conceptualized does not sufficiently account for the Kenyan educational context. A school principal noted: *"There's a disconnect between what IEPs prescribe and what's actually feasible in our school environment."*

3. Administrative Support: Teachers highlighted inadequate institutional backing for IEP implementation. One special education teacher stated: *"The administration doesn't always prioritize the resources needed for IEPs, making them difficult to implement consistently."*

This perception could undermine the implementation of tailored interventions essential for addressing the unique needs of autistic learners, as noted by Yell et al. (2017) in their research on IEP implementation challenges.

Response to Commands and Instructions

Table 6 and 7 captures how autistic learners responded to verbal commands and instructions during class.

Table 6: learner's Response to Commands

Response	Frequency	Percent
Rarely	54	19.3%
Full response	14	5%
Did not respond	212	75.7%
Total	280	100%

Table 7: Children's response to instructions

Observation	Frequency	Percent
Rarely	22	7.9%
Full Response	7	2.5%
Did Not Respond	251	89.6%
Total	280	100%

The findings revealed that 75.7% of learners did not respond to commands, while 89.6% did not respond to instructions, with only 2.5% giving full responses to instructions. Qualitative observations provided additional context:
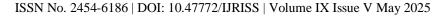
1. Communication Modes: Traditional verbal instruction proved largely ineffective, while multi-modal approaches (combining verbal, visual, and gestural cues) showed greater success in eliciting responses.

2. Environmental Factors: Response rates improved in structured, low-distraction environments with clear visual supports.

3. Teacher Approach: The manner of delivering instructions, including tone, complexity, and wait time, significantly influenced learner responses.

Teachers reported:

"We often need to use visual cues alongside verbal instructions, but we lack adequate visual teaching aids." (Teacher, School F)

"The communication barrier is substantial. Traditional instructional approaches simply don't work for many of these learners." (Special Education Teacher)

These findings align with research by Quill (1997), who emphasized that autistic learners often process visual information more effectively than auditory information, suggesting the need for multimodal instructional approaches.

CONCLUSION

The study established that learners with autism in Laikipia County face considerable educational challenges that hinder the achievement of desirable learning outcomes. Teaching programs and curriculum implementation efforts were found to be insufficiently responsive to the specific needs of these learners. Additionally, the limited use of diverse teaching methods, coupled with difficulties in applying IEPs, suggests a need for substantial professional development among educators (Boutot & Myles, 2011).

The findings further revealed social barriers, notably parental denial and societal stigma. Some parents concealed their children at home due to shame or cultural misconceptions, often attributing autism to witchcraft or divine punishment. Consequently, affected children are denied access to education and instead subjected to harmful practices aimed at 'exorcism'. Moreover, parents lack sufficient community and institutional support, leading to marginalization and withdrawal from the pursuit of educational opportunities for their children.

The communication challenges identified through the study, where the majority of learners did not respond to verbal commands or instructions, underscore the need for alternative communication strategies and specialized instructional approaches that cater to the unique processing patterns of autistic learners.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed:

1. Specialized Infrastructure and Resources: Government and stakeholders should provide specialized facilities, equipment, and resources tailored specifically for children with autism rather than integrating them into generic mental disability programs.
2. Policy Recognition: Autism should be recognized and addressed as a distinct educational category, with dedicated funding and strategic frameworks to support learners.
3. Teacher Professional Development: Teacher training should be enhanced both through pre-service and in-service programs to equip educators with skills in IEP development, behavioral management, and inclusive pedagogy specific to autism education.
4. Community Awareness: Structured community sensitization programs should be implemented to address stigma and increase awareness about autism as a neurodevelopmental condition requiring professional support rather than cultural condemnation.
5. Multimodal Communication Strategies: Schools should adopt and implement diverse communication approaches, including visual supports, augmentative and alternative communication (AAC) systems, and structured teaching methods to enhance instruction for autistic learners.
6. Collaborative Support Networks: Establish networks involving parents, teachers, healthcare providers, and community members to create comprehensive support systems for autistic learners and their families.

With the growing prevalence of autism in Kenya, timely interventions are necessary to ensure inclusive, equitable, and quality education for all learners, as envisioned in SDG 4.

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